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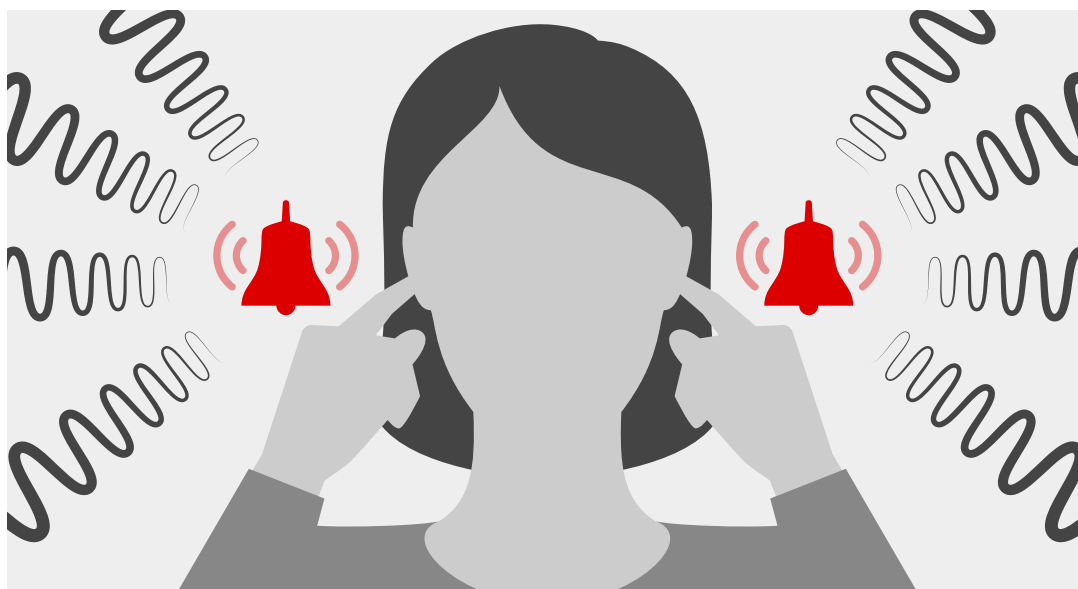
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# Mindfulness Based Cognitive Therapy for tinnitus: Evaluation of long-term outcomes

Elizabeth Marks, Laurence McKenna & Florian Vogt

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*Mindfulness Based Cognitive Therapy for tinnitus (MBCT-t) appears to alleviate distress associated with tinnitus but long-term outcomes are unknown. A retrospective survey with 72 people who had completed MBCT-t over the past nine years found that benefits often continued or improved for years after therapy. Qualitative analysis indicated that key changes supporting such improvements were a result of new, more helpful ways of responding to tinnitus, profound holistic benefits, reduced isolation and enhanced self-compassion and gratitude.*

## Background

**T**INNITUS is the perception of sound in the absence of any external source for that sound. It is one of the most common physical symptoms affecting human-kind, with up to 30 per cent of the population reporting tinnitus (McCormack et al., 2016). It reflects changes in the auditory pathway that can be brought about by multiple causes. The strongest correlation is with age, implying that it is an experience that will gradually affect a greater proportion of the population as they age (Seydel et al., 2013). Its effects range from the trivial to profound and life

changing, with only a minority (1–2 per cent) of the population reporting severe distress associated with tinnitus (Baguley et al., 2013). This range of impact is determined primarily by psychological factors. There are currently no medical or surgical solutions and the strongest evidence in tinnitus management is for cognitive behavioural-based therapies, including MBCT-t (Fuller et al., 2020; NICE 2020), with the recently published NICE Guidelines (2020) for tinnitus indicating that MBCT-t should be offered to people seeking help for tinnitus.

MBCT-t has been a treatment option at the Royal National Throat Nose and Ear Hospital (RNTNEH) at University College London Hospitals (UCLH) since 2008. Since this time, 500 people have been offered MBCT-t and 450 (90 per cent) completed treatment, indicating a high level of acceptability. Two papers have been published evaluating the intervention. A clinical evaluation of MBCT-t at the RNTNEH from 2008–2014 was conducted, during which time 188 patients completed MBCT and 182 (97 per cent) completed outcome measures (McKenna et al., 2018). Results demonstrated that 87 per cent ( $N=158$ ) of patients reported at least some reduction in tinnitus-related distress. Another study tested MBCT-t against Relaxation Training in a randomised controlled clinical trial (McKenna et al., 2017) and found that 62 per cent ( $N=21$ ) of MBCT-t participants reported reliable improvement in tinnitus by six-months follow up. MBCT-t was associated with reductions in psychological distress, and improvements in functioning (in work and social domains). Overall, MBCT-t is an effective, relevant and acceptable treatment with very high completion rates (with an attrition rate of just 8 per cent in the randomised controlled trial).

### **Lasting improvements**

Previous studies of MBCT-t are limited to a six-month follow up period, during which outcomes have been shown to be sustained and even enhanced, in terms of reduced tinnitus distress and severity and improved psychological health and functioning. As yet, no studies have explored outcomes of MBCT-t in the longer-term. This is particularly relevant for people distressed by tinnitus when one considers evidence from UK clinical services where current standard care (rarely involving a psychological approach) often results in expensive and distressing ‘revolving door’ patterns of healthcare use, with repeated attendance at GPs and secondary care (McFerran et al., 2018).

### **Evaluating longer-term outcomes**

This clinical evaluation aimed to offer some preliminary data regarding the impact

of MBCT-t in the longer-term, from over six-months and up to several years following treatment completion within our routine MBCT-t treatment pathways. This is the first attempt to assess whether the benefits of MBCT-t can persist beyond six-months following treatment completion.

### **Methods**

This clinical evaluation involved an online survey of people who had previously taken part in an MBCT-t group as part of our routine service delivery. Since 2010, patients completing MBCT-t in the service have been given the option to join a mailing list (giving consent for ongoing contact with the service regarding drop-in sessions and news about MBCT-t at the RNTNEH). Following updates to this mailing list (required due to changes to data protection/GDPR) the total number of MBCT-t alumni remaining on this list was 125. The survey was disseminated electronically to these 125 previous treatment completers.

The survey asked individuals to provide information about the time elapsed since completion of the MBCT-t course, whether the course had initially led to significant personal benefits for them (or not), and whether such benefits had persisted since completion. This clinical evaluation was designed to collect qualitative feedback and was considered by the local ethics research committee to be part of routine evaluation of the clinical psychology mindfulness service at UCLH.

### **Analysis**

Percentages of respondents reporting initial and sustained improvement across a range of domains were calculated. For the qualitative data, formal content analysis was performed, incorporating systematic coding and classification of the written data submitted by respondents. After initial coding, redundant and overlapping themes were identified and the codes restructured, resulting in the final codes. Once the final codes had been created, the frequency of occurrence of these codes was counted within the written feedback (Smith, 2000) to provide a frequency count.

Results

There was a good response rate of 58 per cent from the 125 people included in the survey (72 respondents), with 66 completing the full survey. Of these, 5 per cent completed in the first 12 months, 41 per cent completed >1–3 years ago, 30 per cent completed >3–5 years ago and 24 per cent completed >5 years ago. Thus this evaluation can be seen to reflect long-term impacts of MBCT-t.

Initial and long-term benefits

In line with findings from published studies, most participants (84 per cent) recalled having immediate reduction in tinnitus intrusiveness following MBCT-t (and 96 per cent reported feeling less distressed about tinnitus after MBCT). This is equivalent to findings in the original evaluation (McKenna et al., 2018) (with 87 per cent of participants reporting at least some reduction in tinnitus severity). This suggests that respondents to this survey are representative of our wider population who received MBCT-t therapy in our service. The results are summarised in Table 1. In the longer-term, a third of respondents reported that benefits in terms of tinnitus severity, distress, quality of life and wellbeing

increased in the years after treatment. Only a small minority (3–6 per cent) stated that they no longer noticed any benefits from MBCT-t, indicating that for the vast majority of respondents, MBCT-t had a sustained benefit years after therapy.

In what way MBCT-t helped people

Respondents were asked to describe any ways in which MBCT-t had a long-lasting impact upon them. A total of 52 respondents provided written answers to this question in an open text box. Answers varied in length and complexity across participants, and the Content Analysis revealed four main themes within the data. The themes and the frequency count for the number of times each was mentioned in the data, is reported, based on the Content Analysis procedure described above, exemplar quotations illustrate the themes:

1. New ways of responding to tinnitus (frequency count 57):

Respondents described how they learnt to respond to their tinnitus in a way that involved more acceptance. They spoke about feeling more able to ‘allow’ tinnitus to be present in awareness, rather than having to fight against it or ignore it. This led

Table 1: Immediate and sustained benefits reported by respondents following MBCT-t. \* indicates percentage not at 100% as a small number of people indicated ‘N/A or prefer not to say’.

Benefits after MBCT-t:	Immediate benefits reported (N=69)	Long-term benefits remain the same (N=66)	Long-term benefits increased (N=66)	Long-term benefits remain but reduced (N=66)	Long-term benefits disappeared (N=66)
Reduced tinnitus intrusiveness	84%	38%	32%	27%	3%
Reduced distress about tinnitus	96%	43%	37%	16%	3%*
Having better quality of life	94%	46%	32%	13%	6%*
Having better wellbeing	93%	38%	38%	18%	3%*

to them feeling less distressed and fearful about tinnitus, and less anxious about it. MBCT-t provided them with tools to cope with tinnitus in this new, more helpful way. Some exemplar quotations are:

*‘The programme helped me... to accept tinnitus for what it is. To be aware of it as part of me. That helped as a coping mechanism.’*

*‘Made me understand tinnitus... it was not going to damage me.’*

*‘It’s a really constructive way of accepting the tinnitus because, I must sit with the sounds daily for 10 minutes. My previous tactic had been to mask it with anything I could, which is not practical or supportive.’*

*‘It has allowed me to approach the tinnitus with kindness and gentleness rather than a brittle and rigid approach which made life unbearable.’*

## **2. Profound Holistic benefits (frequency count 40)**

In addition to being less affected by tinnitus, respondents described more general improvements in their wellbeing, reporting reduced levels of anxiety and depression, and a greater quality of life overall. Some exemplar quotations are:

*‘It arms you to deal with any form or stress, anxiety or frustration and I used its techniques in all forms of my life...’*

*‘Today my quality of life is good, I rarely suffer from tinnitus and whenever I do, it does not bother me the way it used to do.’*

*‘I now have increased awareness of my stress responses, and can reduce them before they impact on my tinnitus, hearing or general wellbeing.’*

*‘MBCT-t has possibly saved me from having brain surgery and taking pain-killers or other unnecessary drugs for years, as well as from depression.’*

*‘It is the best national health treatment I have had.’*

## **3. Less isolation (frequency count 6)**

Taking part in a group therapy with other tinnitus patients had a long-lasting effect upon people, who reported that learning that they were not alone, and connecting with others had helped with their recovery. Some exemplar quotations are:

*‘I remember the kind understanding as being significant in this isolating experience.’*

*‘Group practice easier than solo.’*

*‘Knowing that you are not alone with this condition.’*

## **4. Self-compassion and gratitude (frequency count 5)**

A few participants described how they had learnt new ways of taking care of themselves, and learning to refocus their attention on to aspects of life they could feel grateful for. Some exemplar quotations are:

*‘It started a life-long process to care for myself and allow me to give as much time that I put in for others to do the same for myself.’*

*‘It has given me the ability to focus on/appreciate the present...’*

## **Conclusions**

With 95 per cent of respondents completing MBCT-t over a year ago, and 54 per cent over 3 years ago, these data offer new insights into the potential long-term beneficial impact of MBCT-t upon people distressed by tinnitus. With current research literature limited to six-month follow-ups, this clinical evaluation offers some new information about how MBCT-t may have long-term effects.

Encouragingly, a large proportion (70–80 per cent) of the 66 people who completed the full survey reported that their initial benefits from MBCT-t (in terms of tinnitus, wellbeing

or quality of life), were either sustained or even improved in the years following treatment completion. The fact that up to a third described increasing benefits over time is particularly encouraging. This is a significant finding when compared to reports that standard care can often lead to repeated help-seeking (McFerran et al., 2018). If MBCT-t can offer sustained benefit to a proportion of people with distressing tinnitus, it could represent a way out of this pattern of repeated healthcare use for more people seeking help for this problem, with significant economic and health implications.

Content Analysis of qualitative data provides insight into how and why MBCT-t can lead to lasting change, and chimes with recently published literature using other qualitative methodologies exploring people's experiences of MBCT-t (Marks et al., 2020). This interview study also found that participants saw the key factor in reducing their tinnitus severity and distress came from learning to *relate to tinnitus in a new way*. Rather than being 'at war' with tinnitus, participants in this study learnt to stop fighting tinnitus, and to explore ways of allowing and accepting it, leading to less fear and anxiety. The authors also reported on the importance of a group-based approach, holistic benefits (in mood, quality of life etc) and the development of more positive psychological states such as kindness and gratitude. Broader literature on mindfulness (Gu et al., 2015) indicates that cultivation of such attitudes correlate with lower distress. Furthermore, quantitative data has shown that the development of 'tinnitus acceptance' is also associated with better clinical outcomes in tinnitus (McKenna et al., 2017; 2018).

Based on such converging findings, it is reasonable to suggest that MBCT-t can lead to sustained benefits in the long-term in a proportion of people, particularly those who complete treatment and experience benefit from MBCT-t in the shorter term. This appears to be related, at least in part, to how people see themselves as developing new ways of thinking about and responding to tinnitus, including having '*ongoing tools I can use*'. MBCT-t aims to

teach people new skills based on Mindfulness and Cognitive Therapy that they can use even when the therapy is completed, and even if tinnitus continues.

This evaluation therefore builds on existing research to suggest that MBCT-t may be effective in helping many people to make lasting changes that enable them to live with chronic tinnitus and experience less distress from it. It also supports advice given to people to keep practicing mindfulness after completing formal therapy.

### Strengths and limitations

This is the first study to explore long-term outcomes of MBCT-t over six months, and extending to more than five years. There are significant methodological limitations that must be acknowledged. This report is on an uncontrolled survey, using non-standardised measures as part of a clinical evaluation. The sample of 72 people represents just 16 per cent of all (450) MBCT-t completers from our service over the years. Although this represents a healthy response rate of 58 per cent to those contacted, the number of people contacted was only about a quarter of MBCT-t alumni. This sample is small because not all MBCT-t alumni elected to be on a mailing list following their course, and many of them had to be removed from the mailing list because of changes to data management following GDPR. This means the sample reported here may not be fully representative, and there may be a bias in respondents being more likely to have shown lasting benefits. This is a common problem in long-term follow up studies, but it does mean that the results should be interpreted with caution, and indicates the importance for further research.

### Conclusions

The benefits of MBCT-t in terms of tinnitus intrusiveness and distress, psychological well-being and quality of life can persist for over five years following treatment. Of those who responded and initially reported benefit from MBCT, complete relapse was rare, and the percentages reporting benefits completely

disappearing were very low (3 per cent for tinnitus intrusiveness, tinnitus distress and wellbeing, and 6.1 per cent for quality of life).

The greatest benefits came from learning new ways of living with tinnitus, as well as managing stress, anxiety and depression, feeling less isolated and developing more positive attitudes and a better quality of life. These findings chime well with other reports of people's experiences of MBCT-t.

This evaluation indicates that there is value to be had in developing research to explore long-term outcomes of MBCT-t using standardised measures and minimising response

bias. Clinical services that are offering MBCT-t and related approaches should also consider long-term follow up and explore how benefits change over time.

**Elizabeth Marks**, Lecturer, Department of Psychology, University of Bath  
e.marks@bath.ac.uk

**Laurence McKenna**, Clinical Psychologist, Royal National ENT and Eastman Dental Hospitals, UCLH, London

**Florian Vogt**, Clinical Psychologist, Royal National ENT and Eastman Dental Hospitals, UCLH, London

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